

10/553303

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## SEQUENCE LISTING

<110> Cirpus, Petra  
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 Wiberg, Eva

<120> USE OF GENES FOR INCREASING THE OIL CONTENT IN PLANTS

<130> 12810-00153-US

<150> PCT/EP2004/003845

<151> 2004-04-13

<150> EP 03008909.8

<151> 2003-04-16

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<170> PatentIn version 3.3

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Ser	Asn	His	Met	Ser	Thr	Leu	Asp	Asp	Pro	Val	Met	Trp	Gly	Ala	Phe
65						70					75				80
Lys	Gly	Leu	Leu	Ser	Leu	Asp	Pro	Glu	Leu	Ala	Arg	Trp	Val	Leu	Ala
				85					90					95	
Ala	Glu	Asp	Ile	Cys	Phe	Arg	Asn	Pro	Ile	Phe	Ser	Tyr	Ile	Phe	Arg
			100					105					110		
Thr	Gly	Lys	Cys	Ile	Pro	Ile	Thr	Arg	Gly	Gly	Gly	Ile	Tyr	Gln	Glu
		115					120					125			
Asn	Met	Asn	Glu	Ala	Leu	Gln	Arg	Leu	Lys	Asp	Gly	Ser	Trp	Leu	His
	130					135					140				
Thr	Phe	Pro	Glu	Gly	Lys	Val	Phe	Gln	Asp	Asp	Val	Pro	Ile	Arg	Arg
145						150					155				160
Leu	Lys	Trp	Gly	Thr	Ala	Ser	Leu	Ile	Ala	Arg	Ser	Pro	Val	Thr	Pro
				165					170					175	
Ile	Val	Leu	Pro	Ile	Ile	His	Arg	Gly	Phe	Glu	Glu	Met	Met	Pro	Glu
			180					185					190		
Asn	Tyr	Asn	Asn	Gly	Arg	Arg	Pro	Leu	Val	Pro	Leu	Pro	Asn	Lys	His
	195						200					205			
Leu	Lys	Val	Val	Val	Gly	Glu	Pro	Ile	Glu	Phe	Asp	Val	Pro	Met	Met
	210					215					220				
Val	Glu	Thr	Ala	Val	Leu	Asp	Ser	Arg	His	Val	Thr	Pro	Pro	Leu	Gln
225						230					235				240
Glu	Val	Lys	Trp	Pro	Val	Leu	Thr	Ser	Ala	Gly	Gln	Val	Leu	Asp	Glu
				245					250					255	
Thr	Ala	Gln	Arg	His	Leu	Tyr	Ile	Ala	Leu	Ser	Glu	Lys	Ile	Gln	Ser
			260					265					270		
Ser	Leu	Glu	Thr	Leu	Arg	Leu	Leu	Ala	Lys	Arg	Leu				
	275						280								

&lt;210&gt; 7

&lt;211&gt; 403

&lt;212&gt; DNA

&lt;213&gt; Zea mays

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)..(403)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 7

```
ccgctcctca ccgtcagcaa tcacatgtcc acgtttagatg acccgcttat gttggcgatt 60
caaggggttt ccaacttcgg atgcaaagct tggaagggtg gtgctgacag cagaagatat 120
atgcttcaag aatgtagtca tgtcctacat gtttcgactt gggaaatgca taccaatcac 180
gagagggggg gggatttatc aagaacacat gaatgaagcc cttgacgtgc ttagaaatgg 240
aggctggctg catacattcc ctgaaggaaa aatagcccaa gaagatcagc cgattagaag 300
attgaagtgg ggaactgcc a gtcttattgt ccgagcacct ataactcaa tagttttgcc 360
aattgttcac tctggtttcg aaaagggtcat gccagaaaa tcg 403
```

<210> 8

<211> 423

<212> DNA

<213> Glycine max

<220>

<221> misc\_feature

<222> (423)..(423)

<223> n is a, c, g, or t

<220>

<221> misc\_feature

<222> (1)..(423)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 8

```
ttcccgggtc gaccaccatt ggcgccgccc acaccaccac acctttatcc cctctgccga 60
tggtacttcc tcttccacca ttcaacgctg cctcagccga tttcgtgatt tccgaaggga 120
ttcattgctt tcttccacct ctttctatcg taaacgagtg attaaggatt tcagttctga 180
ggaagattca gctcttggtc gtacgatgca agctggtgcg gttcctgttc ttggaaatgt 240
ctgtcacgtg tttatgaacg gattaaacca ggtgcaggtg tatggtttag aaaaactgca 300
ctccgcgttg ctgcatagac ctaagggcaa acctcttctt acggtcagca atcatgttgc 360
ttccatggat gatccgcttg ttatcgcttc gctgcttcct tcgagtgttc tcttggatgc 420
tan 423
```

<210> 9

<211> 408

<212> DNA

<213> Glycine max

<220>

<221> misc\_feature

<222> (1)..(408)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 9

```
tttttatcaa ccaacgcaac atgtcacgga cgatggagtg ggcggcgagg gcggagcacc 60
tccgcggcat tcccagaaaa ctctgtgatt cggcgggtgg cggtatcgcc aaaacgggtg 120
cgtctttcct caacaccgcc gatgttcaca acggcgacac tctcctccgc ctctgtccgct 180
ccagacccca ccgcgtcccc ctctattaccg ttagcaatca catgtccact ttggatgatc 240
cggttatgtg ggggttcaag ggttttccta tcttcgacac caacttagct cgctgggttc 300
```

```
tcgctgccga agatatttgc ttcaggaatg ccctctattc ctatattttt cggctgcata 360
cttttccaga aggaaaagtg tatcaagaag atgcacctat aaggcaat 408
```

```
<210> 10
<211> 368
<212> DNA
<213> Linum usitatissimum
```

```
<220>
<221> misc_feature
<222> (1)..(368)
<223> nucleic acid sequence which can be used to identify and clone genes
encoding oil synthesis enhancing proteins (OEPs)
```

```
<400> 10
cggttagcaa ccatgttgct tctgtcgatg acccatttgt gattgcttca ttgctaccac 60
caagagtact tttggatgct cagaacttga ggtggacact ttgcgcaagg atcgctgttt 120
taggaatccc gtcacttctg cattcttaag actgtcaaag tcttgcccct ctctcggtgt 180
catggagttt atcagaaggg tatggacacg gcaattgcga acgtgaacac tgggtggctgg 240
gttcacatct tcccggaggt agccgttcta aggatgggtg gaaaactatg gggctctatta 300
aaagaggtgt tggaagggtg gtacttgatg ctgatacttc tccccattgt agtcccgggtc 360
gtgcacac 368
```

```
<210> 11
<211> 376
<212> DNA
<213> Linum usitatissimum
```

```
<220>
<221> misc_feature
<222> (1)..(376)
<223> nucleic acid sequence which can be used to identify and clone genes
encoding oil synthesis enhancing proteins (OEPs)
```

```
<400> 11
tcgtagttag agaacctcag atggctggga ttacaaggaa tgcagtgttt gtgaccgtcg 60
gtgcctttgc taaggcagtg agtagtcttc tgaacaatac atcagtccac aatgcagaca 120
ctctacttcg cctagttcga tctcggccgc ctggtgtacc tctcatcact gttagcaatc 180
acatgtcaac gttagatgat cctctgatgt ggggattcaa gggattccca atcatgggat 240
gcgaaattgt ttcgatgggt atgggctgct gaagacatct gtttcaggaa ttcttttcat 300
tcttacttct ttcgcatggg gaaatgtatt cccattacaa gaggtggggg aatttatcgg 360
agccacatga atgaag 376
```

```
<210> 12
<211> 418
<212> DNA
<213> Linum usitatissimum
```

```
<220>
<221> misc_feature
<222> (1)..(418)
<223> nucleic acid sequence which can be used to identify and clone genes
encoding oil synthesis enhancing proteins (OEPs)
```

&lt;400&gt; 12

```

ccgcctggtg tacctctcat cactgttagc aatcacatgt caacgttaga tgatcctctg 60
atgtggggat tcaagggatt cccaatcatg aatgcgaaat tgtttcgatg ggtattagct 120
gctgaagaca tctgtttcag gaattctttt cattcttact tctttcgcat ggggaaatgt 180
attcccatta caagagggtg tggaatttat caaagccaca tgaatgaagc tcttcagcgc 240
ttgagcaatg gtgattggct gcacacattc cctgagggaa aggtcaacca agaaattgga 300
cctataagac gattgaaatg gggaactgcc agtctcatcg tccgtgcccc tgttacaccg 360
atagtattac ccattgttca tcgtggcttt caagagggtga tgccagagaa ctacctat 418

```

&lt;210&gt; 13

&lt;211&gt; 445

&lt;212&gt; DNA

&lt;213&gt; Glycine max

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)..(445)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

&lt;400&gt; 13

```

ttccgggtcg accgccattg gcgcccgcgc cactaccacc acacctttat cccctccgcc 60
gatggctact tctcctccac cattcaacgc tggctcagcc gatttcgtga tttccgcaga 120
gactcgttgc cgtcgtccac ctctttttat cgcaaacgag tgattaagga tttcagttct 180
gaagaagatt caactcttgt tcgtatgatg caagctgttg cggttcctgt tcttggaat 240
gtctgtcacg tgtttatgaa cggattaaac agtgtgcagg tatatggttt agaaaaactg 300
cactccgctt tactgcaaag acctaaagga aaacctcttc ttacggtcag caatcatgtt 360
gcttccatgg atgatcctct tgttattgct tcgctgcttc ctccgagtgt tcttttggac 420
gtaggaatc tcagatggac gcttc 445

```

&lt;210&gt; 14

&lt;211&gt; 361

&lt;212&gt; DNA

&lt;213&gt; Hordeum vulgare

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)..(361)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

&lt;400&gt; 14

```

ggaatcggtg atcctccgca tggttcaagc tgtggcggtt cctctattgg gaaacatgtg 60
ctacgtgttc atgaatggcc tcaatcgctg tcaggttcat ggctggaga agctgcacaa 120
ggcattgctt gagaggccta aggacaagcc cctagtaacg gttagcaacc atgttgcttc 180
tgtcgatgac ccatttgatg ttgcttcatt gctaccacca agagtacttt tggatgctca 240
gaacttgagg tggacacttt gcgcaacgat cgctgtttta ggaatcccgt cacttctgca 300
ttctttaaga ctgtcaaagt cttgcccctc tctcgtggtc atggagttaa tcagaagggt 360
a 361

```

&lt;210&gt; 15

&lt;211&gt; 472

&lt;212&gt; DNA

&lt;213&gt; Brassica napus

<220>  
 <221> misc\_feature  
 <222> (1)..(472)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 15  
 tgtatcggaa tttccgggtc gacgaccacc gccggagagc cgcggtttta tatacggacg 60  
 gttactttctc ttctccatc caccgcttgg ctgctcgatt gcggaacttc cgccgcgagt 120  
 ctctcccttc tgccccgct ttttatcgca gaagagtacc taaagatttg acggcagaag 180  
 aagagtctgc tatcttccgg atgcttcaag ctgtggctgt tccacttatt ggaaacgctt 240  
 gtcattgttt catgaatggc cttaaccgtg ttcagggtgt tggttttagag aagttgcatg 300  
 atgctctgct caacaggcca aagaacaagc ctctcgtaac ggtagcaat catgtggcat 360  
 ccttgatga tccatttgtc attgcttcgt tacttccgcc taagcttcta ctcgatgctc 420  
 gtaatttgag gtggacgctt tgtgctacag atagatgctt taagaaccct gt 472

<210> 16  
 <211> 412  
 <212> DNA  
 <213> Brassica napus

<220>  
 <221> misc\_feature  
 <222> (412)..(412)  
 <223> n is a, c, g, or t

<220>  
 <221> misc\_feature  
 <222> (1)..(412)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 16  
 tttagatgat ccagtaatgt ggggagggtt caaggcgtct tctttcctta gatccagagc 60  
 tggctcgatg ggttcttgct gcagaggaca tttgtttcaa gaaccctgtc ttctcctaca 120  
 tcttccgcac tggcaagtgt atacctataa ctagagggtg tggaatctac caagaacaca 180  
 tgagtgaagc tctcgagcga ttaaaagatg gatcttggtt gcataccttc ccagagggca 240  
 aggtgtttca agaagatgtg cctataagac gacttaaagt gggaaccgca agcctcatcg 300  
 cccgttgccc agtcaccca atcgtcttgc caataattca ccgtgggttg acgagatgaa 360  
 tgccgagagt acatttatgg aaaangacca ccgtaccgtt tggaacaaa an 412

<210> 17  
 <211> 410  
 <212> DNA  
 <213> Brassica napus

<220>  
 <221> misc\_feature  
 <222> (410)..(410)  
 <223> n is a, c, g, or t

<220>  
 <221> misc\_feature  
 <222> (1)..(410)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 17

```

tttagatgat ccagtaatgt ggggaggggtt caaggggtctt ctttccttag atccagagct 60
ggctcgatgg gttcttgctg cagaggacat ttgtttcaag aaccctgtct tctcctacat 120
cttccgcact ggcaagtgtg tacctataac tagaggtggg ggaatctacc aagaacacat 180
gagtgaagct ctcgagcgat taaaagatgg atcttggttg cataccttcc cagagggcaa 240
ggtgtttcaa gaagatgtgc ctataagacg acttaaatgg ggaaccgcaa gcctcatcgc 300
ccgttgccca gtcacccaaa tcgtcttgcc aatatttcac cgtgggtttg acaacatgat 360
gcccgaataa gtccttttat ggaagaatga caaccgtacc tgtggggaan 410

```

<210> 18

<211> 420

<212> DNA

<213> Glycine max

<220>

<221> misc\_feature

<222> (420)..(420)

<223> n is a, c, g, or t

<220>

<221> misc\_feature

<222> (1)..(420)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 18

```

gccattggcg ccgccgacac aaccaccaca cctttatccc ctccgccgat ggctacttct 60
cctccacat tcaacgctgg ctcagccgat ttcgtgattt ccgcagagac tcgttgccgt 120
cgtccacctc tttttatcgc atacgagtga ttaaggattt cagttctgaa gaagattcaa 180
ctcttggtcg tatgatgcaa gctgttgctg ttcctgttct tggaaatgtc tgtcacgtgt 240
ttatgaacgg attaaacagt gtgcaggat atgggtttaa aaaactgcac tccgctttac 300
tgcaaagacc taaaggaaaa cctcttctta cggtcagcaa tcatgttgct tccatggatg 360
atcctcttgt tattgcttcg ctgcttcctc cgagtgttct tttggacgct aggaatctcn 420

```

<210> 19

<211> 490

<212> DNA

<213> Brassica napus

<220>

<221> misc\_feature

<222> (397)..(397)

<223> n is a, c, g, or t

<220>

<221> misc\_feature

<222> (1)..(490)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 19

```

aattcctggg tcgacgattt cgtcccgaga tgggtggcaag actatgggct cagcaaaaaag 60

```

```

aggtattgga aggttgattt tggacgcaga taccctccct atggttggtc catttggtgca 120
tactgggatg caagatataa tgcctatagg agccagtgtt ccacggattg gcaaaacagt 180
gacagtgatc attggagatc ctattccctt taatgacctt gtagacactg aaggagccaa 240
acacgtttca aggaagcagt tgtatgacgc tgtatcttcc aggataggac aaagattaca 300
ccagttaaag caacagggtt ataaagtatc tctgggagca caatattcag aagaatcacc 360
agcccttctt ggtaaacaaa tttcccaaac cgatgtncgt ctcaatgggt tggactggca 420
tgttcctaaa agggattgcc atccgaagga agcatcagcc tgaagggtta gaggtttatg 480
gactctacag                                     490

```

<210> 20

<211> 386

<212> DNA

<213> Zea mays

<220>

<221> misc\_feature

<222> (1)..(386)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 20

```

cgtgcttaga aatggaggct ggctgcatac attccctgaa ggaaaaatag cccaagaaga 60
tcagccgatt agaagattga agtggggaac ggccagtctt attgtccgag cacctataac 120
tccaatagtt ttgccaattg ttcactctgg tttcgaaaag gtcatgccag aaaactcgtt 180
ctttggacgg cgaccaccgg tgccactctg cagtaagaag atagacatca ttgttggaga 240
gccaatagag tttgacttgc caagcttgaa gcaagaagca tcaacgggtac cccatgactc 300
atcctctgaa cggaaggggt ggccggccat tacaccagat gggctggacg aggccgcccc 360
gagatggctt taccagaaga tgtcag                                     386

```

<210> 21

<211> 429

<212> DNA

<213> Brassica napus

<220>

<221> misc\_feature

<222> (1)..(429)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 21

```

ctcgggtcga cgattccgta cggctctaac cgagttcagg tgtatgggtt atagaagctg 60
tatgatgctc tgctcaacag gccaaagaac aagcctctcg taacggctaa caatgatgtg 120
gcaccccttg atgatccatt cgccattgct tcattactat ccgcctaagc ttctactctg 180
atgctcgtaa tttgaggtgg acgctttgtg ctacagatag atgctttaag aaccctgtaa 240
cttcagcttt ctttcgatca ttcaaagttt tgccagcttc tcgcggtgaa ggaatctatc 300
agcagggaaat ggacatcgcg acgtcgaaat tgaataatgg aggatgggtt cacatatttc 360
cagaaggcag acggtaccga gatgggtggct agactatggg ttcacgcaat agaggtattg 420
gaatgttgt                                     429

```

<210> 22

<211> 436

<212> DNA

<213> Brassica napus

<220>  
 <221> misc\_feature  
 <222> (1)..(436)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 22  
 tctagatgac ccactattgt ggggagggct ccagggtctt atttccttag atccaaagct 60  
 ggctcgatgg gatcttgctg cagaggacat ttgtttcaat aaccctgtct tctcctacat 120  
 tttccgcact gacacgcgta tacctataac tagagggtgg ggaatctacc aagaacacat 180  
 gagtgaagct ctagagcgat taatagatgg atcttgcacg gcaaggcgtt tcaagaagat 240  
 gtgcctataa gacgacttaa atggggaacc gcaagcctca tcagccgttg cccagtcacc 300  
 ccaatcgtct tgccaataat tcaccgtggg tctgacgaga tgatgccgga gaagtacatt 360  
 tatggaagaa taccaccgtt accgctgtgg aacaaaaacc ttaaagtagt tgttggtgaa 420  
 ccaatcagag ttgatg 436

<210> 23  
 <211> 423  
 <212> DNA  
 <213> Brassica napus

<220>  
 <221> misc\_feature  
 <222> (423)..(423)  
 <223> n is a, c, g, or t

<220>  
 <221> misc\_feature  
 <222> (1)..(423)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 23  
 ggatgatcca tttgtcattg cttcggtact tccgcctaag cttctactcg atgctcgtaa 60  
 tttgaggtgg acgctttgtg ctacagatag atgcttcaaa aaccctgtaa cttcagcttt 120  
 ctttcgatcc gtcaagggtt tgccagtttc tcgcggtgaa ggaatttatc agcaggggaat 180  
 ggacattgcg atttcgaaat tgaataatgg aggatgggtt cacatatttc cagaaggtag 240  
 tcgctcccga gatgggtggc agactatggg ctcagcaaaa agaggatttg gaaggttgat 300  
 tttggacgca gataccctcc ctaatgttgt tccattttgt catactggta tgcaagatat 360  
 aatgcctata ggagccagtg ttccacggat tggcaaaaaca gtgacagtga tcattggaga 420  
 tcn 423

<210> 24  
 <211> 400  
 <212> DNA  
 <213> Oryza sativa

<220>  
 <221> misc\_feature  
 <222> (1)..(400)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 24

```

gcgatggcat ctaccaaaaag ggaatggaca tggcactttc aaagttgaac aatggtggat 60
gggttcatat tttcccagaa ggaagtcgtt caaaggatgg agggaaaacc gtcgctcctg 120
ccaagagagg tgttgaaga ttggtaatgg acgctgacag ccttccagtt gtaataccct 180
ttgtccatac aggaatgcag gatataatgc ctgtcggaaa acgtattcca agagcaggca 240
aaaggggtgat tgtggttgtt ggtgatccaa tcaacttcaa cgaccttattc attgacaaca 300
gcgatgaaac ccaacacatc tctagaggca ttttgtatga caaagcaaca gaaaggattg 360
ggcagagact gcaggaactg aaagccgaag tcgatagatt 400

```

<210> 25

<211> 414

<212> DNA

<213> Brassica napus

<220>

<221> misc\_feature

<222> (1)..(414)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 25

```

ggcagcaaga tctgatcact tgggaggaat cccaagaaaa actgtgataa cagccgttgg 60
tgctttcgcg agagcagtag ctaatctttg caacaaaacc aaagttcaca atgcagatac 120
tcttatgact cttgtccgtt cagcaccacc tgggtgccct ctcactactt ttagatgatac 180
cagtaatgtg gggaggggtc aaggggtctt tttctttaga tccagagttg gctcgatggg 240
tgcttgctgc tgaggatata tgtttcaaga actctttctt ctcctacatc ttccgcactg 300
gcaagtgtat acctataact agaggtggtg gaattctatca agaacacatg agtgaagctc 360
ttgaacgatt aaaagatgga tcttggttgc ataccttccc agaggggcag gtgg 414

```

<210> 26

<211> 397

<212> DNA

<213> Brassica napus

<220>

<221> misc\_feature

<222> (1)..(397)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 26

```

ctgccccgcg tttttatcgc agaagagtac ctaaagattt gacggcagaa gaagagtctg 60
ctatcttccg gatgcttcaa gctgtggctg ttccacttat tggaaacgct tgtcatgttt 120
tcatgaatgg tcttaaccgt gttcaggtgt atggtttggg gaagttgcat gatgctttac 180
tcaacagacc aaagaacaag cctcttgtaa cggttagcaa tcatgtggcg tccttggtatg 240
atccatttgt cattgcttcg ttacttcctc ctaagcttct acttgatgct cgtaacttga 300
ggtggacgct ttgtgctaca gatagatgct ttaagaacct tgtaacttca gctttctttc 360
gatccgtcaa agttttgccg gtttctcgcg gtgaagg 397

```

<210> 27

<211> 429

<212> DNA

<213> Brassica napus

<220>

<221> misc\_feature  
 <222> (1)..(429)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 27  
 gaattcaacg tcgacgattt cgtcgatccg tcaagggtttt gccagtttct cgcggtgaag 60  
 gaatttatca gcagggaatg gacattgcga tttcgaaatt gaataatgga ggatgggttc 120  
 acatatttcc agaaggtagt cgctcccag atggtggcaa gactatgggc tcagcaaaaa 180  
 gaggtattgg aagggttgatt ttggacgcag ataccctccc tatggttggt ccatttgtgc 240  
 atactggtat gcaacatata atgcctatag gagcactgt tccacggatt gacaaaacag 300  
 tgacagtgat cattggagat cctattccct ttagtgacct tgtagacact gaacgatcca 360  
 aacacgtttc aaggaaccag gtttatgacc ctctatcggt caggatcgac agcgattacc 420  
 ctctgcat 429

<210> 28  
 <211> 404  
 <212> DNA  
 <213> Brassica napus

<220>  
 <221> misc\_feature  
 <222> (1)..(404)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 28  
 gttacttcg cctaagcttc tactcgatgc tcgtaatttg aggtggacgc tttgtgctac 60  
 agatagatgc ttcaaaaacc ctgtaacttc agctttcttt cgatccgtca aggttttgcc 120  
 agtttctcgc ggtgaaggaa tttatcagca gggaatggac attgcgattt cgaaattgaa 180  
 taatggagga tgggttcaca tatttccaga aggtagtgcg tcccgatatg gtggcaagac 240  
 tatgggctca gcaaaaagag gtattggaag gtgagtcata tatgccttta ctttcagcta 300  
 ctttatgtaa tgcgtgtgta tggaccttat tataacacaa acaagcttgt gattcacttc 360  
 tttgtgcaag atgatttctc tctcagatac catgcgtatg aatg 404

<210> 29  
 <211> 467  
 <212> DNA  
 <213> Brassica napus

<220>  
 <221> misc\_feature  
 <222> (467)..(467)  
 <223> n is a, c, g, or t

<220>  
 <221> misc\_feature  
 <222> (1)..(467)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 29  
 gaattctcgg gtcgacgata gtgcaaattt agatgatcca gtaatgtggg gagggttcaa 60  
 ggtcttcttt ccttagatcc agagctggct cgatgggtac ttgctgcaga ggacatttgt 120  
 ttcaagaacc ctgtcttctc ctacatcttc cgcactggca agtgtatacc tataactaga 180

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ggtggtggaa tctaccaaga acacatgagt gaagctctcg agcgattaaa agatggatct 240
tggttgcata ctttcccaca gggcacggtg ttacacgatg atgtgcctag ctgacgactt 300
acatggggaa ccggcggcct aatcccgcgt tgaccaacca cgccaattct cttgccaata 360
tttcacggcg actgtgacga catcatgacg cagaaggcca tggatctata aacaccaccg 420
ctacctctct tgatcaaaac cgtaaacgta gaggaggcta accctcn 467

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<210> 30

<211> 459

<212> DNA

<213> Brassica napus

<220>

<221> misc\_difference

<222> (1)..(459)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 30

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gatcaccgtg gtagagccgc ggttttatat acggcacggt atagcgttct cttctccatc 60
caccgcttgg ctgctcgatt ccggaacttc cgccgcgagt ctctcccttc tgcccccgct 120
ttttatcgca gaagagtacc taaagatttg acggcagaag aagagtctgc tatcttccgg 180
atgcttcaag ctgtggctgt tccacttatt ggaaacgctt gtcattgttt catgaatggg 240
cttaaccgtg ttcagggtgta tggtttagag aagttgcatg atgctctgct caacaggcca 300
aagaacaagc ctctcgtaac ggtagcaat catgtggcat ccttggatga tccatttgtc 360
attgcttcgt tacttccgcc taagcttcta ctcgatgctc ggaatttgag gtggacgctt 420
tgggctacac acagatgggt taccaaccct gtgcttccg 459

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<210> 31

<211> 389

<212> DNA

<213> Glycine max

<220>

<221> misc\_feature

<222> (26)..(26)

<223> n is a, c, g, or t

<220>

<221> misc\_feature

<222> (1)..(389)

<223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 31

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ggggtactgc gcccgcaatt cccggnccgg accaccattg gcgcccgcgac accaccacac 60
ctttatcccc tctgcccgatg gctacttctc ctcgaccatt caacgctgcc tcagccgatg 120
tcgtgatttc cgaagggtatt cattgccttc ttccacctct ttctatcgta aacgagtgat 180
taaggatttc agttctgagg aagattcagc tcttgttcgg acgatgcaag ctggtgcggg 240
tcctgttctt ggaaatgtct gtcacgtgtt tatgaacgga ttaaaccagg tgcagggtgta 300
tggtttagaa aaactgcact ccgcgttgct gcatagacct aagggcaaac ctcttcttac 360
ggtcagcaat catgttgctt ccatgggatg 389

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<210> 32

<211> 400

<212> DNA  
 <213> *Oryza sativa*

<220>  
 <221> misc\_feature  
 <222> (1)..(400)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 32  
 agaaaaactg cactccgctt tactgcaaag acctaaagga aaacctcttc ttacggtcag 60  
 caatcatggt gcttccatgg atgacacctt tgttattgct tcgctgcttc ctccgagtgt 120  
 tcttttggac gctaggaatc tcagatggac gctttgcgca actgataggt gttttaaaaa 180  
 ccctgtgact tctgcattct ttcgatcagt caaagttttg ccagtttctc gaggtgatgg 240  
 catttatcaa gaaggaatgg acttggccat atcaaaattg aaccatgggtg gttgggtcca 300  
 gatattccca cacggcgggt gatccctcta tttttcaaaa tcagaaagtt aaaataaggg 360  
 agggggcgtc gaaaaatcca agcgggggagc gggccccttg 400

<210> 33  
 <211> 449  
 <212> DNA  
 <213> *Brassica napus*

<220>  
 <221> misc\_feature  
 <222> (432)..(432)  
 <223> n is a, c, g, or t

<220>  
 <221> misc\_feature  
 <222> (1)..(449)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 33  
 aattcccggg tcgacgatca ccgtggcaga gccgcggttt tatatacgga cggttacttc 60  
 tcctcctcca tccaccgctt ggctgctcga ttccggaact tccgccgca gtctctccct 120  
 tctgcccccg ctttttatcg cagaagagta cctaaagatt tgacggcaga agaagagtct 180  
 gctatcttcc ggatgcttca agctgtggct gttccactta ttggaaacgc ttgtcatgtt 240  
 ttcatgaatg gtcttaaccg tgttcagggt tatggtttgg agaagttgca tgatgcttta 300  
 ctcaacagac caaagaacaa gcctcttgta acggtttagca atcatgtggc gtccttggat 360  
 gatccatttg tcattgcttc gttacttctt cctaagcttc tacttgatgc tcgtaatctg 420  
 aggtggacgc tntgtgctac agatagatg 449

<210> 34  
 <211> 429  
 <212> DNA  
 <213> *Oryza sativa*

<220>  
 <221> misc\_feature  
 <222> (216)..(216)  
 <223> n is a, c, g, or t

<220>

<221> misc\_feature  
 <222> (1)..(429)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 34  
 ccgggatggt ggaaaaacca tgggctcttc caagagaggt gttgggaggt tagtcctgga 60  
 tggagatagc atgcctgttg ttgtcccatt tgtacataca gggatgcagg agattatgcc 120  
 tgtaggtgct aactttccca gaataggcaa gatggttaca gtgctcatag gtgatccgat 180  
 caattttgat gatataattg aatttgacaa agacanaggc tcaaatgtgc ccagaagacg 240  
 actatatgat gcagtagcat ctaaaattgg tgatcgggtg cttgagatga aggtccaggt 300  
 tgacactatc gcaattgtca agaaatgcag gtaccagaaa agtcctcaca cagactgacc 360  
 gaccatataa aaactgagcc aggtgattgg gactaatttg aatggacatc ttctggccgc 420  
 agaaatgcc 429

<210> 35  
 <211> 449  
 <212> DNA  
 <213> Brassica napus

<220>  
 <221> misc\_feature  
 <222> (432)..(432)  
 <223> n is a, c, g, or t

<220>  
 <221> misc\_feature  
 <222> (1)..(449)  
 <223> nucleic acid sequence which can be used to identify and clone genes encoding oil synthesis enhancing proteins (OEPs)

<400> 35  
 aattcccggg tcgacgatca ccgtggcaga gccgcggttt tatatacggg cggttacttc 60  
 tcctcctcca tccaccgctt ggctgctcga ttccggaact tccgccgcga gtctctccct 120  
 tctgcccccg ctttttatcg cagaagagta cctaaagatt tgacggcaga agaagagtct 180  
 gctatcttcc ggatgcttca agctgtggct gttccactta ttggaaacgc ttgtcatgtt 240  
 ttcatgaatg gtcttaaccg tgttcagggt tatggtttgg agaagttgca tgatgcttta 300  
 ctcaacagac caaagaacaa gcctcttgta acggttagca atcatgtggc gtccttggtat 360  
 gatccatttg tcattgcttc gttacttcct cctaagcttc tacttgatgc tcgtaatctg 420  
 aggtggacgc tntgtgctac agatagatg 449

<210> 36  
 <211> 23  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <221> misc\_feature  
 <222> (1)..(23)  
 <223> 5' primer for the YPR140w gene

<400> 36  
 atgtctttta gggatgtcct aga

<210> 37  
 <211> 23  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <221> misc\_feature  
 <222> (1)..(23)  
 <223> 3' primer for the YPR140w gene

<400> 37  
 tcaatcatcc ttaccctttg gtt

23

<210> 38  
 <211> 21  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <221> misc\_feature  
 <222> (1)..(21)  
 <223> primer At140.1-S1

<400> 38  
 gtcggtcttt ctaactgaat c

21

<210> 39  
 <211> 20  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <221> misc\_feature  
 <222> (1)..(20)  
 <223> primer At140.1-A1

<400> 39  
 cctgtgggac ttaaacctca

20

<210> 40  
 <211> 20  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <221> misc\_feature  
 <222> (1)..(20)  
 <223> primer At140.1-S2

<400> 40  
 cagaatggga attcattttg

20

<210> 41

<211> 21  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <221> misc\_feature  
 <222> (1)..(21)  
 <223> primer At140.1-A2

<400> 41  
 ctaacgggag tttaacttgc a

21

<210> 42  
 <211> 19  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <221> misc\_feature  
 <222> (1)..(19)  
 <223> primer At140.2-S1

<400> 42  
 ctggtctcgt ttctaattg

19

<210> 43  
 <211> 22  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <221> misc\_feature  
 <222> (1)..(22)  
 <223> primer At140.2-A1

<400> 43  
 catggcgaat ctaaaccgga ac

22